

## REMARKS

New Claims 61-64 have been submitted.

Claims 43-45, 49 and 56-59 have been amended.

Claim 43 has been amended to specify the claimed protein comprise at least 38 contiguous amino acids from SEQ ID NO:62. Support for such language can be found in U.S. Patent 5,795,862 to which the instant Application traces its priority claim. Specifically, U.S. Patent 5,795,862 discloses SEQ ID NO:6 which represents the N-terminal 38 amino acids from PfspI. Therefore, Applicants contend no new matter has been entered. Additionally, the requirement that the claimed protein bind an IgE antibody having specificity for PfspI<sub>155</sub> has been removed from the claim.

The term 'flea saliva' protein has been removed from all claims in which it was mentioned. Likewise, the dependency of all dependent claims has been changed from claim 43 to claim 61.

New claim 61 has been submitted. Support for the subject matter of Claim 61 can be found as described above for Claim 43.

New claim 62 has been submitted has been submitted. Dependent claim 62 adds the limitation of 'flea saliva protein' that was removed from the remainder of the claims.

New Claims 63 and 64 have been submitted. Support for fragments of at least 38 amino acids of SEQ ID NO:62 can be found as described above for Claim 43.

### Rejections Under 35 U.S.C. §112, first paragraph

The Examiner has rejected claims 43-45, 57 and 58 for lack of written description. Specifically, the Examiner states the previously submitted claims encompass all proteins comprising a fragment of SEQ ID NO:62-even the smallest fragment of SEQ ID NO:62, i.e., a single amino acid- that bind an IgE antibody having specificity for PfspI<sub>155</sub>. The Examiner, while acknowledging that epitopes likely contain as many as 6 amino acids, further states proteins containing such epitopes could be widely variant in structure and function and the instant Application discloses only a single representative species of the genus of claimed proteins. Therefore, the Examiner concludes the instant disclosure fails to represent the attributes and features of all species encompassed by the claimed genus.

The claims have been amended to specify the claimed proteins comprise at least 38

contiguous amino acids identical in sequence to at least 38 amino acids from SEQ ID NO:62. Applicants note SEQ ID NO:62 is an amino acid sequence of flea saliva protein I (fspI) and that they have previously disclosed a 38 amino acid sequence from fspI. Specifically, the sequence of the N-terminal 38 amino acids from fspI were disclosed in U.S. Patent 5,795,862; this 38 amino acid sequence is represented by SEQ ID NO:6 in the priority document. Because the amino acid sequence of SEQ ID NO:62 is clearly listed in the instant specification, it is a simple matter to look at the sequence and select 38 contiguous amino acids. Therefore, Applicants contend one of skill in the art has all the information necessary to make a protein within the scope of the claimed invention. With respect to proteins comprising 38 contiguous amino acids from SEQ ID NO:62, Applicants contend it is irrelevant what other sequences lie outside of the selected 38 contiguous amino acid sequence. As long as a protein comprises at least 38 contiguous amino acids identical in sequence to at least 38 amino acids from SEQ ID NO:62, one skilled in the art would recognize that such a protein falls within the scope of the claims.

With respect to the number of species disclosed, Applicants contend they have disclosed more than a single specie of the claimed genus. The instant application discloses SEQ ID NO:62, clearly falling within the claims. Priority document U.S. Patent 5,795,862 discloses SEQ ID NO:25 and SEQ ID NO:35. Both of these sequences have regions of at least 38 contiguous amino acids identical in sequence to at least 38 amino acids from SEQ ID NO:62 and therefore fall within the scope of the claims. An alignment of these sequences is shown below for the Examiner's convenience. Additionally, as an illustrative example, an identical region of 38 contiguous amino acids has been bolded within each protein to demonstrate that all of these proteins fall within the scope of the instant claims.

SIN25 -----LTSG GKNQDRKLDQ IIQKGQQVKI QNICKLIRDQ PHTNQEKEKC  
SIN35 WKVNKKCTSG GKNQDRKLDQ IIQKGQQVKI QNICKLIRDQ PHTNQEKEKC  
SIN62 WKVNKKCTSG GKNQDRKLDQ IIQKGQQVKI QNICKLIRDQ PHTNQEKEKC

SIN25 MKFCTKNVCK GYRGACDGNI CYCSRPSNLG PDWKVNERIE RLPITKILVS  
SIN35 MKFCTKNVCK GYRGACDGNI CYCSRPSNLG PDWKVNERIE RLPITKILVS  
SIN62 MKFC-KKVCK GYRGACDGNI CYCSRPSNLG PDWKVskeck dpnnkdsrpt

SIN25 GNSSISTTIT NSKYFETKNS ETNEDSKSKK HSKEKCRGGN DRGCDGNVLL

SIN35 GNSSISTTIT NSKYFETKNS ETNEDSKSKK HSKEKRGGN DRGCDGNVLL  
SIN62 eivpyrqqla ipnick1KNS ETNEDSKCKK HCKEKRGGN DAGCDGNfcy

SIN25 LSTKK-  
SIN35 LSTKK-  
SIN62 crpknk

In view of the above, Applicants contend the instant Application satisfies the written description requirement.

The Examiner has also rejected claims 43-45, 57 and 58 for lack of enablement. Specifically, the Examiner has stated it would require undue experimentation to make all of the proteins that have the stated binding activity and therefore fall within the scope of the claims. Applicants note the requirement for binding has been removed so no experimentation would be required to make the instant invention. As noted above, SEQ ID NO:62 is clearly disclosed, therefore enabling one skilled in the art to make proteins comprising 38 contiguous amino acids from the disclosed sequence.

All of the amended claims are believed to be in condition for allowance. In the event the Examiner has any questions regarding this Application, the Examiner is invited to contact the undersigned representative at (303) 863-9700.

Respectfully submitted,

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